

### REMARKS

Applicants appreciate the time taken by the Examiner to review the Present Application. This Present Application has been carefully reviewed in light of the Official Action mailed December 19, 2003. Applicants are amending Claims 2, 3, 5-10 and 14-18, and adding Claims 19-22. Applicants respectfully submit that the amendments do not add new matter to the current Application. Therefore, Claims 2-22 remain pending in this Application. Applicants respectfully request reconsideration and favorable action for the present Application.

### Drawings

Applicant has amended Figures 1-6. Applicant submits that no new matter has been added by these amendments. Specifically:

Figures 1-6 have been amended to conform to the margin requirements of 37 C.F.R. 1.84(g).

Figures 3 and 5 have been amended to eliminate the shaded text.

### Claim Objections

Claims 5-7 are objected to as being dependent on a previously cancelled claim. Claims 5-7 have been amended to depend from Claim 2, as suggested by the Examiner. Accordingly, withdrawal of this objection is respectfully requested.

### Rejections under 35 U.S.C. § 103

Claims 2, 3, 5-9 and 11-17 stand rejected as unpatentable over U.S. Patent No. 5,613,191 ("Hylton") in view of U.S. Patent No. 5,687,169 ("Fullerton"). Applicant respectfully traverses this rejection.

In order to establish a prima facie case of obviousness, the Examiner must show: that the prior art references teach or suggest all of the claim limitations; that there is some suggestion or motivation in the references (or within the knowledge of one of ordinary skill in the art) to modify or combine the references; and that there is a reasonable expectation of success. M.P.E.P. 2142, 2143; In re Vaeck, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir.

1991). When the motivation to combine the teachings of the references is not immediately apparent, it is the duty of the Examiner to explain why the combination of the teachings is proper. Ex parte Skinner, 2 U.S.P.Q.2d 1788, 1790 (Bd. Pat. App. & Inter. 1986). Applicants respectfully submit that the combination of the Hylton and Fullerton references suggested by the Examiner would not be within the knowledge of one of ordinary skill in the art and does not enjoy a reasonable expectation of success.

Hylton discloses a system for providing interactive multimedia services utilizing wireless distribution. The wireless distribution of the signals involved is accomplished using transponders which translate the frequency of the signal to the radio frequency range and radiates the same through a suitable antenna. A transponder receives these signals and translates them back to their original input streams. Thus, the transmission means of Hylton uses an antenna which has a capture cross-section that goes down as the reciprocal of the frequency, causing high frequencies to be attenuated more than lower frequencies. Additionally, low noise is normally achieved at the front end of the receive chain of the type utilized in Hylton via careful matching of the input and output impedances of the amplifier to its source and load at the frequency of interest and a band definition filter early in the receive chain which also excludes out-of-band noise. (Col. 9 Line 45-Col. 10 Line 36)

In contrast, Fullerton discloses the use of an impulse radio. Incorporating the impulse radio of Fullerton into the wireless distribution system of Hylton, as suggested by the Examiner, would not enjoy a reasonable expectation of success, as the combination would require a skill level greater than that of ordinary skill in the art. For example, the impulse radio of Fullerton utilizes most frequencies within a large range. This means the omni-directional antenna of the type used by Hylton cannot be used to adequately implement the impulse radio of Fullerton. On the other hand, a constant aperture antenna that passes and receives a wide range of frequencies may have a very narrow radiation pattern. Consequently, to develop an antenna which strikes an adequate balance between radiation pattern and flat frequency response for a given application of the impulse radio described in Fullerton would require extraordinary skill in the art.

Additionally, because the impulse radio of Fullerton utilizes a wide span of frequencies a low noise amplifier of the type employed by Hylton may not be used. The impulse radio of Fullerton presents awkward impedance loads across the wide range of frequencies employed, thus matching the input and output impedances of an amplifier to achieve low noise for an impulse radio in the wireless distribution system of Hylton would require extraordinary skill as

well. Furthermore, for much the same reasons, the band-filter employed by Hylton in the receive chain cannot be used, as it functions only over a narrow spectrum of frequencies. Developing a band-filter which simultaneously is low noise enough to be employed in a system such as Hylton and which functions across the wide range of frequencies employed by the impulse radio of Fullerton requires extraordinary skill in the art.

Moreover, the Federal Communications Commission (FCC) only allows impulse radio signals of the type utilized in Fullerton at very low power levels. Thus, to employ these low power impulse radio signals in the system of Hylton would require certain signal-processing techniques, the development and fine-tuning of which would require extraordinary skill in the art.

For the reasons outlined above, incorporating the impulse radio of Fullerton into the wireless distribution system of Hylton, as suggested by the Examiner, would not enjoy a reasonable expectation of success, as the combination would require a skill level greater than that of ordinary skill in the art. Therefore, Applicant respectfully submits that Claims 2, 3, 5-9 and 11-17 are not obvious as asserted by the Examiner, and respectfully requests the withdrawal of the rejection of these claims.

Claim 4 stands rejected as unpatentable over Hylton in view of Fullerton as applied to Claim 2 above, and further in view of U.S. Patent No. 6,545,722 ("Schultheiss"). Applicant respectfully submits that the above arguments regarding Claims 2, 3, 5-9 and 11-17 apply equally well to the rejection of Claim 4, and requests the withdrawal of this rejection as well.

Claim 10 stands rejected as unpatentable over Hylton in view of Fullerton as applied to claim 9 above, and further in view of U.S. Patent No. 6,282,714 ("Ghori"). Applicant respectfully submits that the above arguments regarding Claims 2, 3, 5-9 and 11-17 apply equally well to the rejection of Claim 10. Accordingly, withdrawal of this rejection is respectfully requested.

Claim 18 stands rejected as unpatentable over Hylton in view of Fullerton as applied to claim 9 above, and further in view of U.S. Publication No. US2003/0058828 ("Sarkar"). Applicant respectfully submits that the above arguments regarding Claims 2, 3, 5-9 and 11-17 apply equally well to the rejection of Claim 18. Accordingly, Applicant respectfully requests the withdrawal of this rejection.

CONCLUSION


Applicant has now made an earnest attempt to place this case in condition for allowance. Other than as explicitly set forth above, this reply does not include an acquiescence to statements, assertions, assumptions, conclusions, or any combination thereof in the Office Action. For the foregoing reasons and for other reasons clearly apparent, Applicant respectfully requests full allowance of the currently pending claims. The Examiner is invited to telephone the undersigned at the number listed below for prompt action in the event any issues remain.

An extension of three (3) months is requested and a Notification of Extension of Time Under 37 C.F.R. § 1.136 with the appropriate fee is enclosed herewith.

The Director of the U.S. Patent and Trademark Office is hereby authorized to charge any fees or credit any overpayments to Deposit Account No. 50-0456 of Gray Cary Ware & Freidenrich, LLP.

Respectfully submitted,

**Gray Cary Ware & Freidenrich LLP**  
Attorneys for Applicants



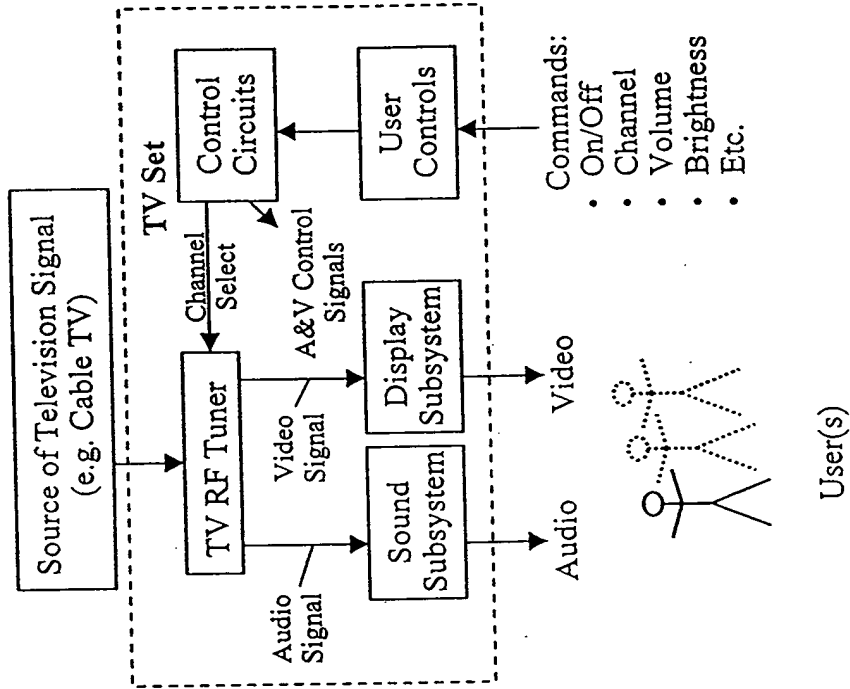
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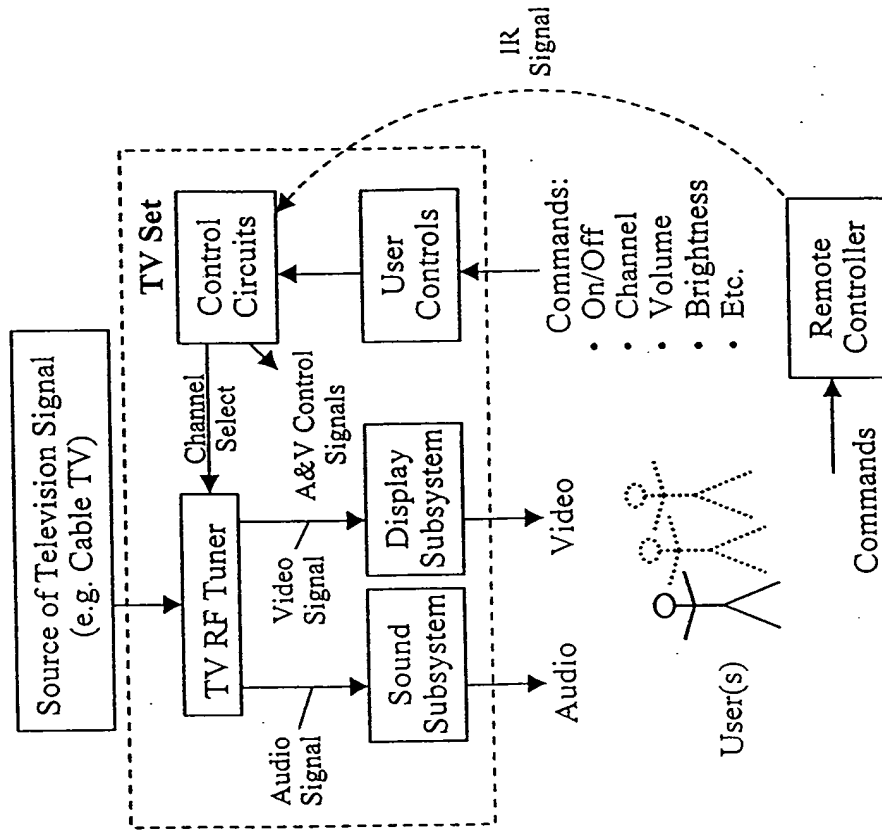
Figure 1 - Conventional TV System Block Diagram



APPROVED  
MANCIN



Figure 2 - Conventional TV System w/ Remote Control



Adjusted  
Margin



Figure 3 - Untethered TV (UTV)

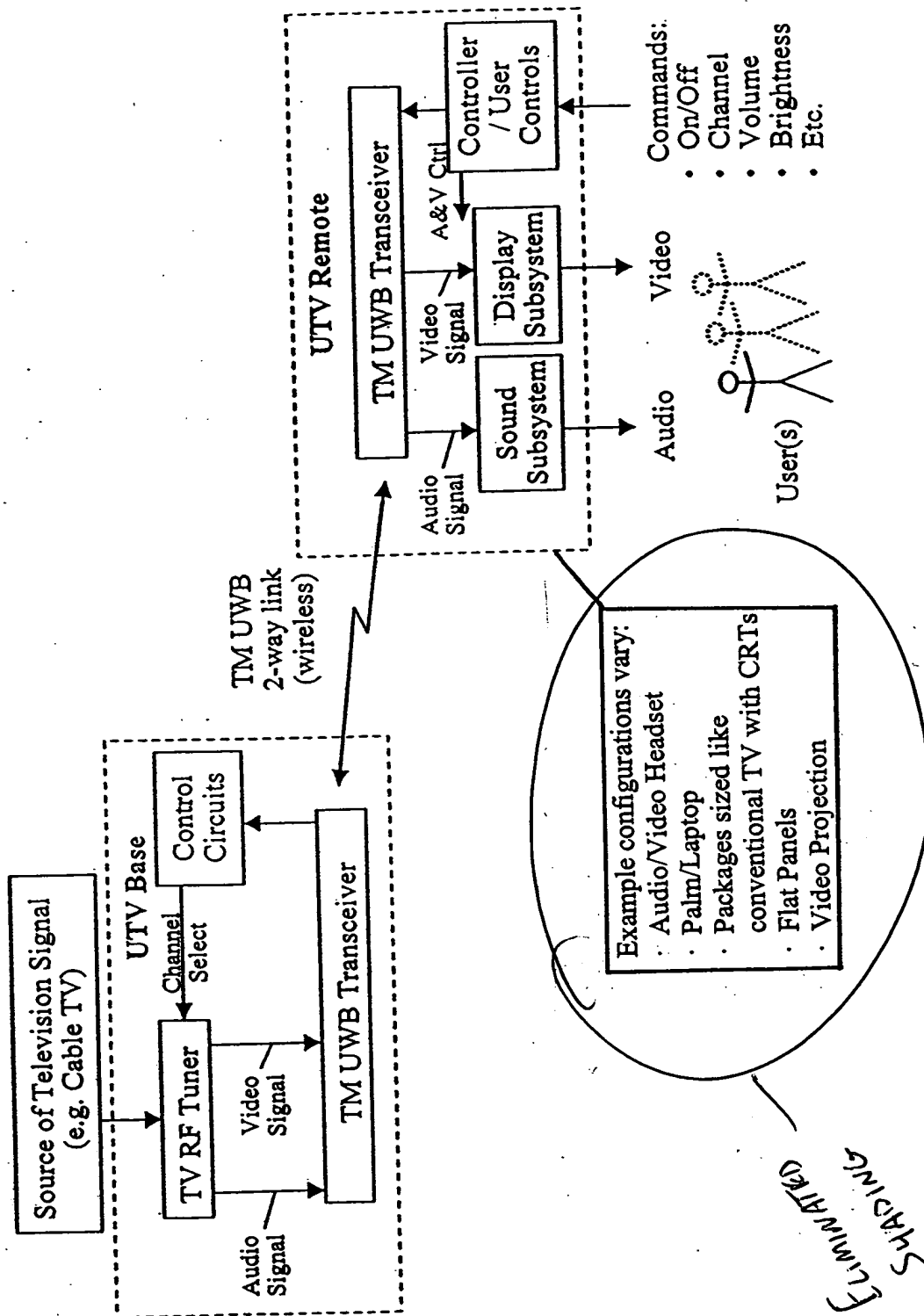
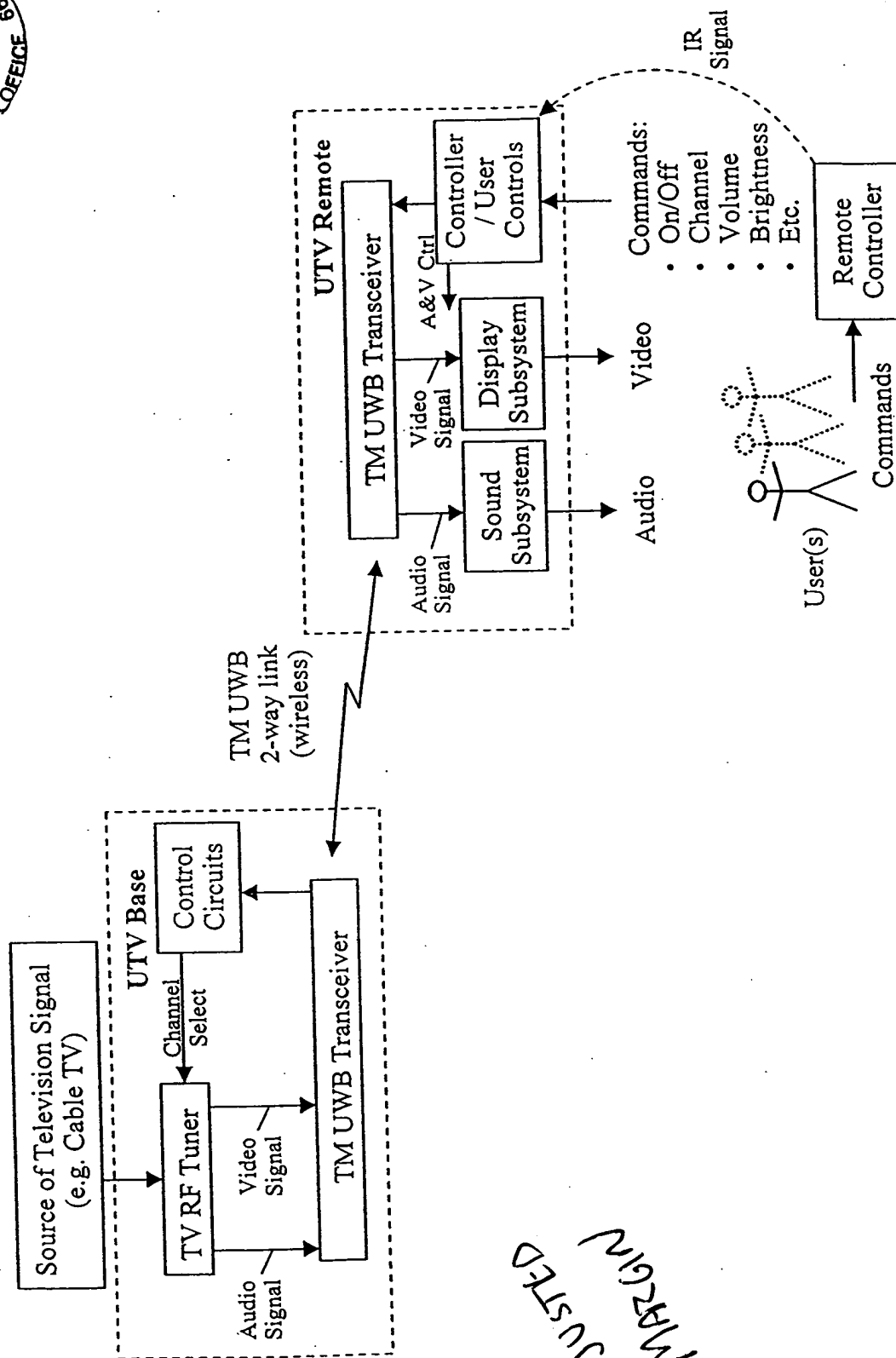




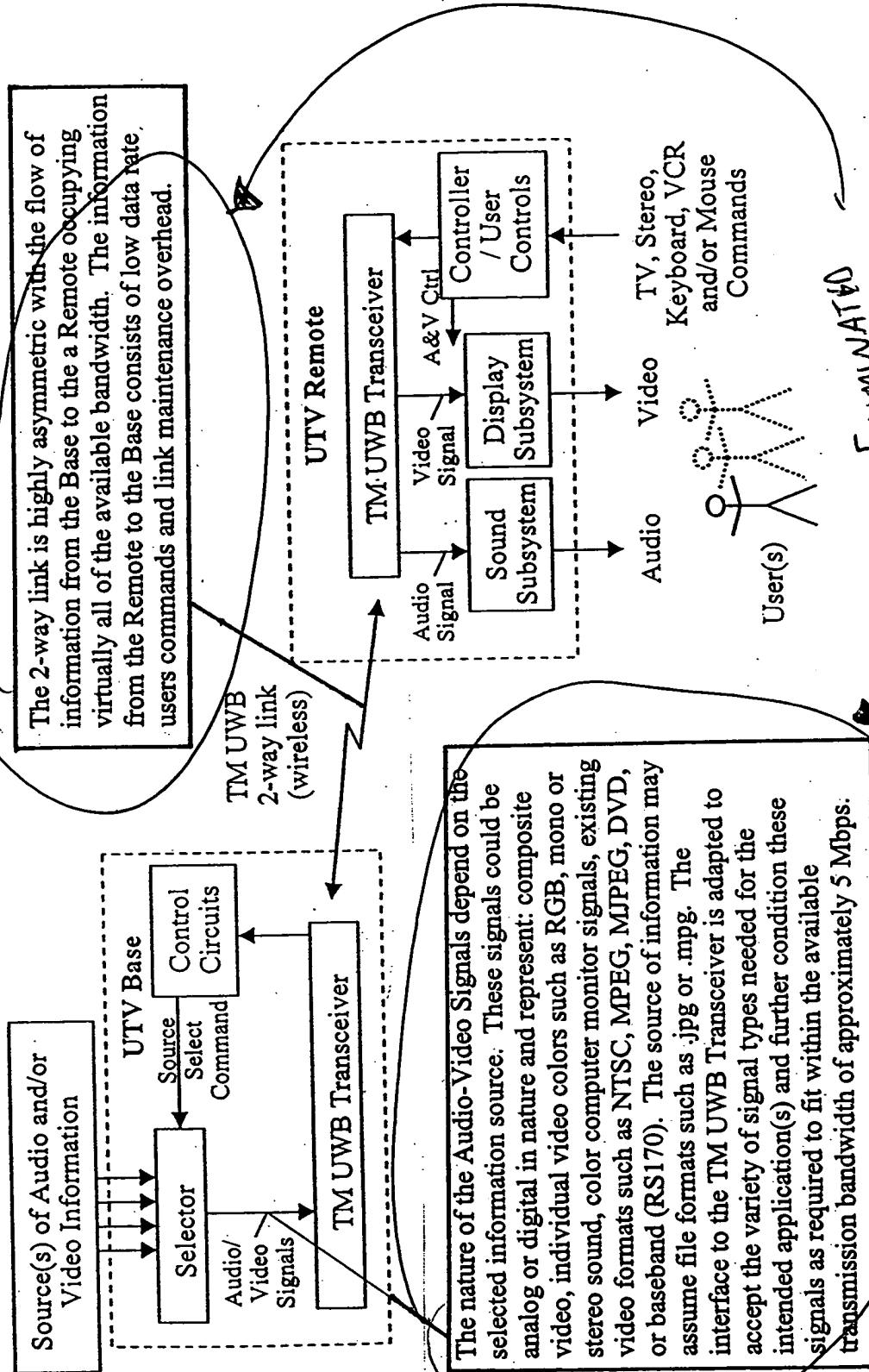
Figure 4 - UTV w/ Remote Controller



Adjusted Margin



Figure 5 – Generalized Configuration of Untethered TV (UTV)



The 2-way link is highly asymmetric with the flow of information from the Base to the Remote occupying virtually all of the available bandwidth. The information from the Remote to the Base consists of low data rate, users commands and link maintenance overhead.

The nature of the Audio-Video Signals depend on the selected information source. These signals could be analog or digital in nature and represent: composite video, individual video colors such as RGB, mono or stereo sound, color computer monitor signals, existing video formats such as NTSC, MPEG, MJPEG, DVD, or baseband (RS170). The source of information may assume file formats such as .jpg or .mpg. The interface to the TM UWB Transceiver is adapted to accept the variety of signal types needed for the intended application(s) and further condition these signals as required to fit within the available transmission bandwidth of approximately 5 Mbps.

ELIMINATED SHADING

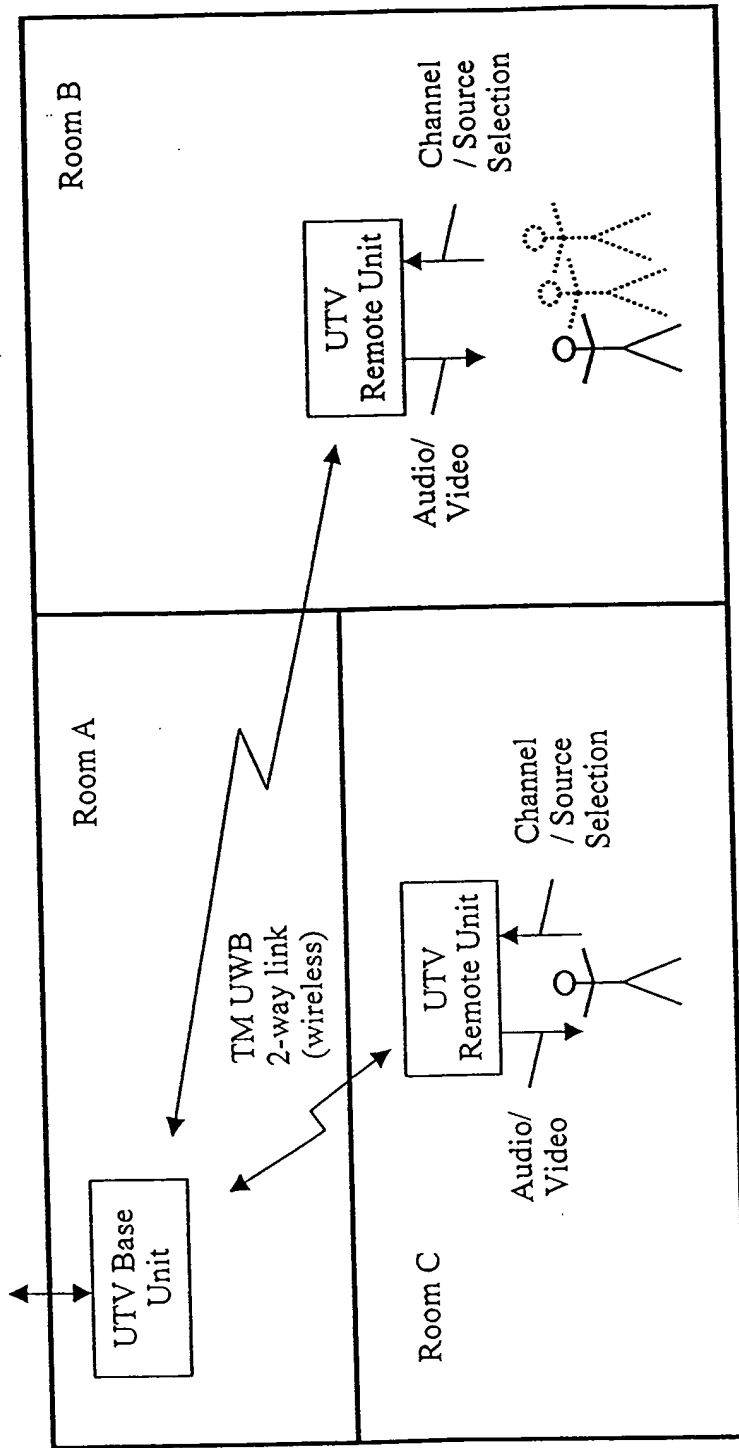
ADJUSTED MARGIN

TYPE JC99  
JUN 21 2004  
PATENT & TRADEMARK OFFICE



Figure 6 - Multiple UTV Remote Units

Source of Information Signal  
(Cable TV, Satellite Dish, Antenna &  
Tuner for Broadcast TV, Computer)



Added  
Margin